

thallus. Thus *Lecanora subfusca*, which exhibits the yellow reaction, is distinguishable at once from *L. umbrina*, *dispersa*, and *conferta*, in which no such reaction is visible.

The same reactive operates on other Lichens by producing a yellow colour which quickly changes into a red or purple. Of this a good example is *Lecanora cinerea*, which is thus distinguished from *gibbosa* (and its varieties *calcareae*, *lacustris*, &c.), in which there is no reaction. The *L. cinereo-rufescens*, Anzi, Langob. 73, has the same reaction as *cinerea*, proving it to be only a variety of that species, whilst the true *cinereo-rufescens* (and its forms *diamarta* and *obscurata*) has no reaction. The reaction takes place also in *Lecanora oculata*, *blanda*, *ochroidea*, whilst there is none in *L. mutabilis* and *verrucosa*.

To the above many other instances might be added; but these will be sufficient to show the applicability of these valuable tests.

XXVIII.—On two new Species of Freshwater Polyzoa.

By E. PARFITT, Esq.

[Plate XII.]

To the Editors of the *Annals and Magazine of Natural History*.

GENTLEMEN,

I have much pleasure in introducing to your notice two new species of freshwater Polyzoa met with by me in my investigations of the Devonshire fauna, in the compilation of which in a catalogue form, with notes and observations, I have been engaged for nearly two years; and I hope by-and-by to publish it. The tracings enclosed are made from my own drawings taken from the life, which I hope your artist will be able to use.

As an appendix to Prof. Allman's beautiful monograph of the Freshwater Polyzoa, I beg leave to add the description of the statoblasts of *Paludicella Ehrenbergii*, as they had not been seen by the learned author, and I have been fortunate enough to meet with several:—

The outline is a very elongated ellipse, the cell very small as compared with the very broad border, plano-convex; the cell reddish brown, the annulus or border bluish purple, beautifully reticulated and reflecting the prismatic colours.

They were arranged three in each tube, placed end to end.

I have met with a variety of *Paludicella* which I shall have something to say about at some future time.

I am, Gentlemen,

Yours obediently,

Exeter, Aug. 3, 1866.

EDWARD PARFITT.

Plumatella lineata, n. sp. Pl. XII. figs. 1-3.

Cœnœcium creeping, adherent, somewhat radiating, reddish horn-colour, cylindrical, with eight or ten dark-brown longitudinal lines running the whole length of the tubes.

Polype-cells barrel-shaped, hyaline, the mouth entire, each having five or six distinct dark-brown annulations, slightly constricted at each annulus.

The orifices or polype-cells frequently produced in pairs.

Animal white, or with a faint tinge of yellow, having the longest tentacles of any species I have seen.

Calyx none? Tentacles sixty-two.

Statoblasts dark reddish brown, elliptical, with a broad yellow margin.

Habitat. On the underside of the leaves of water-lilies in a pond in Mr. Veitch's old Nursery, Topsham Road, Exeter, July 1866.

In habit this species is like that described by Van Beneden and named by Prof. Allman *P. stricta*. The form of the statoblast is the same, but the description appended to that species is so brief that I cannot pronounce the one under consideration and *P. stricta* to be the same. Nothing is said of the peculiar lineated appearance of the tubes as seen in this, which to me marks it at once as distinct; and the peculiar dark annulations on the polype-cells form another good distinction.

The animal is the largest and I may say the grandest of all the species that have come under my notice, either in reading or seeing the animals themselves; its name ought to be *Pluma*, without the diminutive termination. They have a peculiarity of half withdrawing themselves within their cells, so that their long flexible tentacles alone protrude; these are then made to sweep the water, waving to and fro something like the *Terebellas* in the sea.

Plumatella Limnas, n. sp. Pl. XII. figs. 4-8.

Cœnœcium adherent, branched, the branches growing mostly in pairs, and slightly enlarged towards the orifices, which are somewhat conical, not occupying the extreme end of the tubes, transparent, entire, and raised above the tubes, with three or four folds or rings towards the base. The whole upper half of the tubes or polypidom transparent, hyaline, showing under condensed light a very faint line of dusky granules running the whole length of the tubes. The inferior half of the tubes opaque and coated with grains of reddish-brown matter; these opaque walls are white inside the tube, and are made up of pentagonal cells, the walls of which are very thick in comparison with the size of the area of the cells.

Animal white; tentacula fifty to fifty-four. Calyx festooned.

Statoblasts elliptical, yellow, with a narrow blackish ring dividing the cell from the narrow purple rim or annulus which surrounds it. The cell is beautifully reticulated externally. Two out of the three statoblasts observed had a slight constriction on one side, which gave them a slightly reniform outline.

Habitat. On an old valve of *Anodon cygneus*, in the canal, Exeter, June 23, 1866.

This appears to be a very distinct species, and is allied or, rather, belongs to that section of the genus to which *P. emarginata* belongs, viz. with a line or ridge along the upper part of the diaphanous tube. But the line of demarcation between the diaphanous portion of the tube in this species and the thick opaque walls of the inferior half gives it, even at first sight, a very distinct and marked appearance. Another striking peculiarity is that the tubes grow mostly in pairs, and are very closely adherent to the matrix, except the polype-cell, which stands up conspicuously near the end of the tube.

Length of the cœnœcium 10 lines.

EXPLANATION OF PLATE XII.

Fig. 1. *Plumatella lineata*: cœnœcium, nat. size, or 2 inches in its longest diameter.

Fig. 2. A portion of the same, enlarged, showing the animals protruded, and one partly withdrawn within its cell.

Fig. 3. Statoblast.

Fig. 4. *Plumatella Limnas*: cœnœcium, enlarged.

Fig. 5. Polype-cell, showing its position at the end of the tube.

Fig. 6. Showing the true polype-cell within the ectocyst.

Fig. 7. The polype expanded.

Fig. 8. Statoblast.

XXIX.—On the Classification of Buprestidæ and Elateridæ, with special regard to the Danish Fauna. By Prof. J. C. SCHIÖDTE*.

I.

By the well-known and valuable researches of Eschscholtz (published in Thon's 'Entomologisches Archiv,' ii., and in Silbermann's 'Revue Entomologique,' vol. iv.) attention was drawn to a great number of hitherto unobserved points in the external structure of Elateridæ, on which he founded an artificial classification of that family; and since then, the remainder of Latreille's *Sternoxi* have been subjected by other entomologists to an analogous examination, resulting in the establishment of more than

* Translated from 'Naturhistorisk Tidsskrift,' ser. 3. vol. iii. Copenhagen, 1865. Accompanied in the original with a plate representing the organs of the mouth.